



JM ECOLOGY

**MR MASON
44 RATBY LANE
MARKFIELD**

**PRELIMINARY
ECOLOGICAL APPRAISAL**

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Verified by: Joe McLaughlin BSc (Hons) MCIEEM

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CONTENTS

1. BACKGROUND INFORMATION 4

 Site Details 4

 Purpose of This Report..... 4

2. LEGISLATION 5

3. METHODOLOGY 7

 Zone of Influence 7

 Habitat Survey 7

 Desk Study 7

 Limitations 8

4. RESULTS..... 9

 Designated Sites 9

 Habitats..... 9

 Protected/Notable Species 10

5. EVALUATION 13

 Habitats..... 13

 Species..... 13

6. RECOMMENDATIONS..... 14

 Habitats..... 14

 Protected/Notable Fauna 14

7. REFERENCES 16

FIGURES

Figure 1-1: Site Context

Figure 4-1: GCN Rapid Risk Assessment Calculator

APPENDICES

APPENDIX 1: Habitat Map

APPENDIX 2: Photographs

1. BACKGROUND INFORMATION

- 1.1 This Preliminary Ecological Appraisal (PEA) has been complete on behalf of Mr Mason for the Site; 44 Ratby Lane, Markfield. It has been produced to inform a proposed development at the Site for a new bungalow within the existing garden (with the existing property retained).

Site Details

- 1.2 The Site is a residential property with associated gardens situated off Ratby Lane to the south of the village of Markfield in north-western Leicestershire. The Site is located within a relatively rural area with adjacent habitats comprising urban residential properties, grassland fields and agricultural land with rural trees and native hedgerows.
- 1.3 The Site is approximately 0.19ha in extent and is located on grid reference SK 49090 08954.

Figure 1-1: Site Context



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Purpose of This Report

- 1.4 This PEA provides baseline data and recommendations for mitigation, compensation and enhancements as appropriate as well as recommendations for any further surveys if necessary. It is produced with due consideration for best practice (CIEEM, 2017) and the British Standards Institution (BSI, 2013).

2. LEGISLATION

2.1 Legislation relevant to this assessment are as follows:

- The Conservation of Habitats and Species Regulations 2019 (as amended);
- The Wildlife and Countryside Act 1981 (as amended);
- The Countryside and Rights of Way (CROW) Act 2000;
- The Environment Act 2021;
- The Wild Mammals Act (1996); and,
- Natural Environment and Rural Communities (NERC) Act 2006;
- Hedgerow Regulations 1997

2.2 The National Planning Policy Framework (NPPF, 2021) informs Local Planning Authorities when developing their planning policies and when reviewing planning applications affecting features of value to nature conservation.

2.3 In respect of the natural environment, the NPPF states under Paragraph 174 that:

“Planning policies and decisions should contribute to and enhance the natural and local environment by:

- a) Protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- b) Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- c) Maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- d) Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- e) Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
- f) Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.”

2.4 The NPPF also states under Paragraph 179 that:

“To protect and enhance biodiversity and geodiversity, plans should:

- a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- b) Promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.”

2.5 Paragraph 180 also states:

“When determining planning applications, local planning authorities should apply the following principles:

- i) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- ii) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the Site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- iii) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- iv) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate”.

3. METHODOLOGY

Zone of Influence

- 3.1 The defined Zone of Influence (ZOI) for any given proposal is related to the significance of sites and species which may be present in the surrounding landscape. For this small scale scheme the following ZOI have been established for designations:

- 2km around the Site for sites of International Importance (e.g. Special Area of Conservation (SAC), Special Protection Area (SPA), Ramsar site);
- 1km around the Site for sites of National or Regional Importance (e.g. Sites of Special Scientific Interest (SSSI) and Local Nature Reserves [LNR]); and
- Priority habitats within 50m.

Habitat Survey

- 3.2 A Site survey was undertaken in September 2023 by Joe McLaughlin BSc (hons) MCIEEM. Joe has over 10 years' experience in habitat and protected species scoping assessments and is appropriately qualified for the surveys based on the CIEEM competencies for carrying out such surveys (CIEEM, 2017). Joe is registered to use a level 2 personal bat licence (2016-26529-CLS-CLS) and great crested newt licence (2015-16947-CLS-CLS), acts as the named ecologist on numerous mitigation licences and is one of a small number of consultants nationwide registered under the Bat Mitigation Class Licence scheme (RC210); all of which further demonstrates his competence to lead this type of work.
- 3.3 The habitat survey was completed using UK Habitat Classification System V2.0 (UK HAB, 2023) with habitat mapping complete using the Natural England Biodiversity Metric 4.0 QGIS mapping tools.
- 3.4 In addition, the methodology was extended to include a search for incidental evidence of protected/notable fauna. Specific consideration was given to the following species:
- Birds;
 - Bats;
 - Amphibians, including great crested newts (GCN) *Triturus cristatus*;
 - Reptiles;
 - Badgers *Meles meles*; and
 - Priority Species, such as hedgehog *Erinaceus europaeus*.
- 3.5 Habitats adjacent to the Site were viewed, where possible, from the Site boundaries in order to assess their potential to support protected species that could be utilising the survey Site.

Desk Study

- 3.6 As part of a desk-based assessment data sources listed below were searched to gather ecological data of relevance to the project, including the identification of ecologically sensitive habitats such as vegetation corridors, woodlands, watercourses, standing water and statutory designated Sites.

- Multi-Agency Geographic Information for the Countryside (MAGIC);
 - Ancient Woodland/Tree Inventory;
 - Ordnance Survey 1:25,000 mapping;
 - Aerial imagery (Google Earth Pro – imagery dated 1999 - 2021); and,
- 3.7 Magic Maps website ([MAGIC \(defra.gov.uk\)](https://magic.defra.gov.uk)) and the Natural England Open Data Geoportal ([Natural England Open Data Geoportal \(arcgis.com\)](https://naturalengland-open-data-geoportal.arcgis.com)) were also accessed in respect of protected species.

Limitations

- 3.8 Despite efforts made during the field survey to provide a comprehensive account of the site, it is important to acknowledge that no investigation can guarantee complete characterisation and accurate prediction of the natural environment. Moreover, it is crucial to recognise that habitats are dynamic entities prone to changes, including the potential colonisation of species subsequent to the surveys complete as part of this report.
- 3.9 In line with standard guidance, the results and recommendations within this report are valid for up to two years from the date of survey, assuming there are no significant changes to the survey Site or its immediate surroundings. Updated survey work may be required to support any future planning applications outside of this time period.
- 3.10 A formal data request to the local record centre was not complete as part of this assessment. However, given the geographical context and scale of the scheme this is not considered a major limitation.

4. RESULTS

Designated Sites

- 4.1 There are no international, national level statutory sites within 2km of the Site. The Site is within a SSSI Impact Risk zone for Groby Pool and Woods SSSI however the development type does not fall into any of the Impact Risk Zone Categories which require further consultation with Natural England.
- 4.2 No off-Site priority habitats are located within the Site or 100m from the Site boundary.
- 4.3 No other Sites or habitats of note were located within the search radius identified in Section 3 and therefore all other designations will not be discussed further in this report.

Habitats

- 4.4 Photographs and a habitat plan are available within the appendices at the end of this report.

Buildings

- 4.5 Three buildings were present within the Site boundary as described below:
- B1 was located within the centre of the Site and comprised of a single storey red brick built bungalow with a concrete tile pitched roof. The building was in a good state of repair with PVC double glazed windows and doors with a metal garage door and UPVC soffits and guttering present.
 - B2 was located to the north adjacent to the eastern boundary of the Site within the rear garden of the property and was a single skin wooden shed with a pitched bitumen felt roof and single double glazed UPVC window. The shed was in a good maintained condition and was utilised for storage.
 - B3 was an open fronted wooden pergola located adjacent to the northern boundary of the Site also within the rear garden of the property.

Modified Grassland

- 4.6 The dominant habitat present at the Site was modified grassland lawns to the south and north of B1 which had a short heavily managed sward, which was closely mown with a short sward of less than 5cm. Species with the grassland included perennial rye grass *Lolium perenne*, fescue *Festuca* sp and forbes included dandelion *Taraxacum agg. sp.*, white clover *Trifolium repens*, fox and cubs *Pilosella aurantiaca*, autumn crocus *Colchicum autumnale* and wood avens *Geum urbanum*.

Hedgerows

- 4.7 Two hedgerows were present along the Site boundaries as described below:
- H1 was a native hedgerow located along the eastern Site boundary. The hedgerow comprised hawthorn *Crataegus monogyna* with ivy *Hedra helix* which was well managed measuring approximately 1.5m in high and 1m wide.
 - H2 was an ornamental hedgerow located along the western Site boundary which comprised copper beech *Fagus sylvatica f. purpurea* and bramble *Rubus fruticosus agg.* measuring approximately 2m to 4m high and at least 2m wide.

- 4.8 H1 considered to be a priority habitat under the NERC Act (2006) as it comprised at least 80% native species. H2 is not considered to a priority habitat under the NERC Act (2006).

- 4.9 Neither of the hedgerows qualify as important under the Hedgerow Regulations (1997).

Ornamental planting

- 4.10 Ornamental planting comprising well established mature shrubs, flower beds which were no longer maintain and species of ornamental and native trees were present across the Site. Species included cherry laurel *Prunus lauroceracus*, purple toadflax *Linaria purpurea*, Rhododendron *Rhododendron sp.*, Mexican orange blossom *Choisya ternata*, copper beech, bramble as well as various species of conifers.

Urban Trees

- 4.11 A number of ornamental trees were present across the Site. Species comprised a range of conifer species as well as Norway maple *Acer platanoides*, smoketree *Cotinus sp.*, cedar *Cedrus libani*, beech *Fagus sylvatica*, magnolia *Magnolia sp.*, southern magnolia *Magnolia grandiflora*, cherry *Prunus sp.*, apple *Malus sp.*, ash *Fraxinus excelsior* and pine *Pinus sp.*

Protected/Notable Species

Amphibians

- 4.12 As GCN are widely understood to be unlikely to traverse beyond 250m from any breeding pond (Franklin 1993, Oldham and Nicholson 1986, Jehle 2000, Jehle and Arntzen, 2000) and as the scheme is extremely small scale the zone of influence for GCN is considered to be 250m for this Site.
- 4.13 Two ponds were identified within 250m of the Site (P1 and P2), both of these ponds were located north-west of the Site at approximately 110m and 138m. As these ponds are located within 250m of the Site the Natural England Rapid Risk Assessment was utilised to determine the risk of offence/ level of impact likely caused by the development proposals, as provided in Figure 4.1 below.

Figure 4-1: GCN Rapid Risk Assessment Calculator

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.1
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
Maximum:		0.1
Rapid risk assessment result:		GREEN: OFFENCE HIGHLY UNLIKELY

- 4.14 The rapid risk assessment determined that development would be unlikely to result in GCN being impacted as only a small area (of sub-optimal habitat) will be lost to accommodate the development.

- 4.15 In accordance with the factors outlined above, GCN are unlikely to be impacted by the proposal.

- 4.16 The Site provides sub-optimal habitats for common amphibians such as common toad *Bufo bufo* which is a priority species under the NERC Act (2006) due to its intensively managed nature. Some limited refuge potential was noted in peripheral shrubs.

Badger

- 4.17 No evidence of badgers such as hairs, latrines, footprints or setts were recorded during the survey on-Site or within 30m of the boundary; access permitting.
- 4.18 The Site was considered to provide sub-optimal habitats for suitable foraging/sett building badgers. It was considered unlikely that badgers would access the Site and therefore badgers will not be discussed further in this report.

Roosting Bats

- 4.19 Building B1 was internally inspected however the loft void was insulated with timbers exposed and the presence of insulation obscured the view of any prospective underlining. No evidence of bats was identified during the survey. No access features suitable for roosting bats were identified externally during the survey and this building was considered to have **Negligible Potential** for roosting bats.
- 4.20 Buildings B2 and B3 were also considered to have **Negligible Potential** for roosting bats as Building B2 did not have any features suitable for access and no evidence of bats was identified within the building. B3 was an open wooden pergola which was open to the elements with no features present considered suitable for roosting bats.
- 4.21 All of the small ornamental trees did not contain any suitable features for roosting bats. As such roosting bats will not be discussed further in this report.

Foraging Bats

- 4.22 The habitats within the Site were considered to offer low value foraging habitats for bats; owing to dominance of ornamental garden species; especially when considered against likely artificial light inputs from the residential property. As such a significant assemblage of foraging bats is considered unlikely.

Birds

- 4.23 The Site habitats provide scope for common garden birds for both foraging and nesting. Given the small scale and relative level of disturbance on-Site, it is considered extremely unlikely to support a significant bird assemblage or ground nesting species.

Reptiles

- 4.24 The Site is considered to provide sub-optimal habitat for reptiles with the majority of the Site forming of hardstanding or heavily managed grassland. Reptiles may be present in the wider rural landscape or at peripheries. However, a significant assemblage on-Site is considered unlikely.

Invasive Species

- 4.25 No invasive species listed under Schedule 9 of the Wildlife and Countryside Act (1981) were identified on-Site and therefore will not be discussed further in this report.

Other Species

- 4.26 The Site is considered to provide some opportunities for hedgehogs due to the presence of the hedgerows, ornamental planting and grassland. .

5. EVALUATION

- 5.1 This section identifies the potential effects on ecological receptors prior to mitigation/recommendations for any further work being made.

Habitats

- 5.2 The native hedgerow was considered to provide the most value for biodiversity at the Site and should be retained as part of the proposals wherever possible.
- 5.3 All other habitats on-Site are of little to no floristic value. As such their losses are not considered a significant constraint to development.
- 5.4 All development within the UK should seek to provide biodiversity net gain in accordance with NPPF, 2021. As such any habitat losses should be offset and enhancements sought as part of landscaping or the Site.

Species

Common Amphibians and Reptiles

- 5.5 Whilst the Site is considered unlikely to support significant population of these species, the ornamental shrubs and hedgerows provide some refuge opportunities for herptiles (which are for the most part being retained). However, risk of transient individuals cannot be entirely ruled out, as such mitigation is proposed in Section 6 to protect individuals during construction.

Foraging and Commuting Bats

- 5.6 The majority of the Sites habitats are of limited value to foraging and commuting bats. However the hedgerow and adjacent trees to the east/north of the Site provide some opportunities for foraging and commuting bats. Whilst it is unlikely to support a population of light averse foraging bats, peripheral features are likely to provide local bats a foraging/commuting resource; the proposed retention of such features is considered advantageous. Whilst further survey is disproportionate, mitigation is included in Section 6 to manage artificial lighting at the Site as part of the scheme.

Birds

- 5.7 Nesting bird could become injured, and nests could be lost when any pruning or removal of the trees, hedgerow and ornamental planting. Prescriptions to manage this risk are therefore set out within Section 6.

Other Species

- 5.8 Other species utilising the Site for foraging and commuting purposes may become trapped or injured in open excavations such as hedgehog. As such mitigation is provided in Section 6 to mitigate this risk.

6. RECOMMENDATIONS

Habitats

- 6.1 The proposed retention of the native hedgerow and native species of trees is considered highly advantageous. If losses are proposed then compensatory re-planting of these habitats must be complete where possible. Replanting should be conducted at a 2:1 ratio and comprise of a similar native species of value to wildlife.
- 6.2 Whilst the other remaining habitats are of little floristic value and their losses (majority of the impacts will be to grassland) are not considered a major constraint, to secure gains for biodiversity, provision of the following should be considered as part of development:
- Native tree/scrub planting;
 - Native species rich hedgerows planting (at least 30m long and seven woody species); and,
 - Native wildflower area (species rich grassland) in areas of open space outside private curtilage).
- 6.3 Other valuable additions to the Site can include bat, bird, hedgehog and invertebrate boxes. All such features should be included within a Biodiversity Enhancement Plan for the Site.

Protected/Notable Fauna

Common Amphibians and Reptiles

- 6.4 Peripheral features should be retained where possible as is proposed. However, if clearances is required mitigation is considered necessary to protect transient herptiles which may pass through the Site.
- 6.5 The scrubby habitat should be cleared using a systematic approach sensitive to the risk of these species being present. This should be complete as follows:
- Vegetation clearance should only occur in temperatures above 10°C;
 - The vegetation should be reduced to 150mm using hand tools and then left overnight (allowing fauna to freely disperse as habitat becomes less favourable for refuge);
 - The following day removal can commence at the contractors discretion;
 - If faunal species found at any point works should stop and a professional ecologist should be contacted for advice;
 - Vegetation cleared should not be piled on-Site as this presents a risk of herptiles moving into these features for refuge. They should instead be moved immediately from Site.
- 6.6 Drainage systems on-Site should avoid gully pots as these risk trapping herptiles. Or alternatively, gully pots with faunal escape features incorporated into their design should be used.
- 6.7 Other mitigation outlined below for badgers and other species is also considered beneficial for these species.

Foraging Bats

- 6.8 A lighting strategy sympathetic to nocturnal fauna is recommended ensuring no artificial light spill occurs towards the eastern hedgerow or off-Site habitats. Any new lighting associated with the development should follow best practice guidelines outlined in Bats and Artificial Lighting at Night (2023).
- 6.9 Lighting should also avoid illuminating any newly installed bat roosting features at the Site.

Birds

- 6.10 As all species receive legal protection during nesting, it is advised to conduct any vegetation removal (trees, ornamental planting or hedgerows) outside of the breeding bird season of March to October (inclusive). Work outside of this period (between November and February inclusive) should still be preceded by a nesting bird check carried out by contractors, as some species can nest all year round.
- 6.11 If it is necessary to conduct vegetation pruning/removal within the nesting bird season, any works to suitable vegetation should be preceded by a nesting bird check conducted by a Suitably Qualified Ecologist (SQE). Where nests are encountered, a suitable standoff zone will be implemented, and all works in the area will cease until the chicks have fledged.

Badger and Other Species

- 6.12 In order to protect animals during construction phase, good practice methods should be implemented throughout works. Those prescriptions should include:
- Safe storage of chemicals;
 - Covering open excavations at the end of each working day or providing an escape route for them to utilise to avoid them becoming trapped;
 - Avoidance of creating rubble/earth/waste piles which could be utilised for refuge;
 - Capping open pipe work and sensible storage of building materials within a designated compound/ storage area;
 - Avoidance of nightwork; and,
 - If during construction a hedgehog is found it should be left in situ, and all works should cease within the vicinity of the area with either a professional ecologist or the Hedgehog Preservation Society contacted for further advice. In most cases the hedgehog can be moved by hand to a nearby off-Site place of safety. However, dependant on the time of year, i.e. if temperatures are low (below 10°C) and the hedgehog was found within the hedgehog hibernation season (from November to March) then it may be necessary to take the hedgehog to a wildlife sanctuary. Moving a pregnant hedgehog or hedgehog with young can also result in mortality; so moving hedgehogs should be considered the last resort and informed by a professional ecologist.
- Please contact the British Hedgehog Preservation Society (Tel: 01584 890801) for advice.
- 6.13 Property boundaries should be defined by hedgerows. If this is not possible, fences must have gaps at the base to allow hedgehogs to disperse across the Site.
- 6.14 Measures, as outlined above for amphibian, and reptiles, will further reduce the risk to badger and other species which is considered highly advantageous.

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APPENDICES

APPENDIX 1: Habitat Map



Note

1.Do not scale this drawing.
2.This drawing is to be read in conjunction with all relevant reports

Key

Red Line Boundary

Existing Small Urban Tree

Non-native and ornamental hedgerow

Native hedgerow

Building

Developed land; sealed surface

Introduced shrub

Modified grassland

JM ECOLOGY

Client

Project Title

Ratby Lane, Markfield

Drawing Title

Habitat Map

Drawn: JMcL

Reviewed: AM

Project no: JME_1950

Date: 19/09/23

Scale@A3: 1:350

Drawing Number

JME_1950_DR1_V1

APPENDIX 2: Photographs

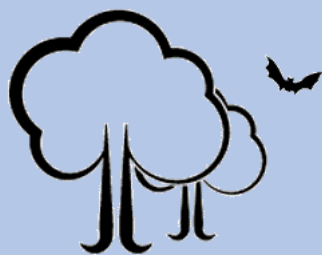












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